

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
UNIVERSITY FARM ST PAUL MINNESOTA

LIBRARY
RECEIVED

★ FEB 1 1941 ★

U. S. Department of Agriculture

Blowouts in the Sandhills Reclaimed by Trees

1.9
F7625T

In the sandhills area of central North Dakota, wind erosion removes 4 to 7 feet of soil over areas ranging from 1 to 80 acres in size. These are known as blowouts. In these areas seedlings of rye, native and introduced grasses, and forage crops usually fail because the stand is ruined in the seedling stage by the cutting action of the wind-borne sand.

However, the Station has found that these blowouts could be successfully stabilized by mass planting of large, sturdy cottonwood wildlings from 1/4 to 1/2 inch in diameter at the ground line.

During the first few years a lister furrow was plowed between each tree row in order to reduce somewhat the velocity of sand blast. No cultivation was necessary because the sand had sufficient velocity to cut off practically all the volunteer vegetation. The cottonwood wildlings made fairly good growth in spite of considerable removal of bark on the windward side (northwest in this case). Other species like Chinese elm, chokecherry, burr oak, and Russian olive failed because of sand blasting, slow growth, or low soil fertility.

It is believed, on the basis of this experience, that sandy areas which have suffered almost complete loss of topsoil and consequently their value for agriculture can be most cheaply reclaimed by fencing and mass planting of cottonwood for wood-lot and stock-shelter use. This applies especially to areas which have deep sand substrates and a permanent water table within 15 feet of the surface because such sites are very favorable to cottonwood.

No. 174

January 1941

Assistance in the preparation of this material was furnished by the personnel of Work Projects Administration, O.P. 165-1-71-124, Sponsor, University of Minnesota, and O.P. 101-2-71-28, Sponsor, Lake States Forest Experiment Station.

